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10/023,808	12/21/2001	Pere Obrador	10019005	4035

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EXAMINER

GENCO, BRIAN C

ART UNIT	PAPER NUMBER
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2615

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DATE MAILED: 03/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/023,808	Applicant(s) OBRADOR ET AL.	
	Examiner Brian C Genco	Art Unit 2615	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____ |

Applicant's amendment filed December 29, 2003 has overcome the grounds of rejection previously presented. As such, new grounds of rejection are being presented bellow.

Examiner thanks Applicant's amendment to Fig. 4A and the addition of Fig. 6. The objection to the drawings are herein withdrawn.

Applicant has successfully traversed the 35 U.S.C. 112, first paragraph rejection of claim 18. As such the rejection is withdrawn.

Applicant has traversed the Official Notices taken for claims 2-5.

In response to the traversal of the Official Notice taken in claim 2 see Examiners revised rejection and support for the Official Notice bellow.

In response to the traversal of the Official Notice taken in claim 5 Examiner directs Applicant to USPN 6,396,537 to Squilla et al., herein Squilla. Squilla discloses the ability to wirelessly communicate with an image server thereby enabling data transportability in the form off-camera storage of images, thereby freeing up memory space on the camera, as well as the ability to order albums or other print formats through the server (column 6, lines 7-19; Fig. 2). Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to have added a communication channel to Juen's camera so as to enable data transportability in the form of off-camera storage of images, thereby freeing up memory space on the camera, as well as the ability to order albums or other print formats through the server.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1, 4-14, 17, 19-21, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over (USPN 2002/0024602 to Juen) in view of (USPN 5,712,681 to Suh).

In regards to claim 1 Juen discloses a method for concurrently acquiring, processing, and transmitting digital video and still images, comprising:

acquiring video frames from one or more image sensors (e.g., element 1);

processing the video frames using a video pipeline, wherein the video pipeline includes one or more processors (e.g., video pipeline includes elements 7, 3, and R of Fig. 5, wherein elements 4 and 7 are inherently processors for performing the labeled process, e.g., compressing);

processing the high resolution still images using a still image pipeline wherein the still image pipeline runs concurrently with the video pipeline (e.g., still video pipeline includes elements 5, 7, 4, and R, wherein the two pipelines operate concurrently, e.g., while one pipeline is recording the other pipeline is buffering).

Juen does not explicitly disclose nor preclude temporarily storing the video frames in a frame buffer when one or more high resolution still images are acquired during the video frame acquisition. Examiner notes that Juen does disclose the ability to take still images during moving image recording (paragraphs 0044, 0119; Figs. 2 and 5), wherein Juen also discloses performing encoding processing, shown in Fig. 3. This process of encoding is described wherein a DCT is preformed (paragraph 0047) wherein it is described in paragraphs 0086 and 0101 that in this

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processing the image is divided into 8x8 pixel blocks wherein each block is operated on individually as is known in the art. Examiner notes that it is known in the art to buffer the image data while performing compression in this manner as taught by Suh. Suh discloses to perform various operations on image data while it is buffered, such as color correction and compression (column 4, lines 8-58). Therefore it would have been obvious to one of ordinary skill in the art to have added a buffer to Juen's invention in order to enable processing of image data such as a DCT. As such, there would be a buffer for temporarily storing video frames when one or more still image is acquired during video frame acquisition.

In regards to claim and 4 Juen discloses downsampling the video frames as disclosed by element 8 of Fig. 5 and paragraphs 47 and 49. Note further element 7 of Fig. 5.

In regards to claim 5 Examiner notes that it is extremely well known in the art to provide communications channels in a digital camera in order to provide data transportability. Official notice is taken. Therefore it would have been obvious to one skilled in the art at the time of the invention to have added communication channels in order to provide data transportability.

In regards to claim 6 see element R.

In regards to claim 7 see Examiners notes on the rejection of claim 1. Note that since the buffer is storing the video images it would need to be emptied so that if a subsequent frame of video image is taken there is still room in the frame buffer to buffer the video images as would be readily apparent to one skilled in the art. Examiner notes that this takes place after the still images are stored, namely stored in a frame buffer as shown in Figs. 2 and 5.

In regards to claim 8 note that in Fig. 5 both pipelines use the compression processor in the image compression means element 7 and the same imaging means 1.

In regards to claim 9 see Fig. 5 and Examiners notes on the rejection of claim 1.

In regards to claim 10 see Examiners notes on the rejection of claim 1.

In regards to claim 11 see Examiners notes on the rejection of claim 6.

In regards to claim 12 see Examiners notes on the rejection of claim 5.

In regards to claim 13 see Examiners notes on the rejection of claim 7.

In regards to claim 14 see Fig. 7 wherein Juen discloses a microprocessor element 18, and a DSP element 15 Note paragraph 0079.

In regards to claim 17 see Examiners notes on the rejection of claim 8.

In regards to claim 19 see Fig. 2.

In regards to claim 20 see Examiners notes on the rejection of claim 1.

In regards to claims 21 and 24 see Examiners notes on the rejections above.

Claims 2, 3, 15, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over (USPN 2002/0024602 to Juen) in view of (USPN 5,712,681 to Suh) in further view of (USPN 6,181,476 to Rashkovskiy et al.).

In regards to claim 2 Juen discloses downsampling the video frames as disclosed by element 8 of Fig. 5 and paragraphs 47 and 49. Examiner notes that Juen does not explicitly disclose nor preclude that the imaging means be a color imaging means. Examiner notes that it is extremely well known in the art to use color filters so as to provide a color image rendition of a taken image. Juen does not disclose nor preclude performing demosaicing of the video or still images. Examiner notes that it is extremely well known to provide demosaicing for color filters in order to generate all of the color signals for each pixel location for complete color

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reproduction (column 1, line 35 – column 2, line 19; column 3, lines 33-39; Rashkovskiy).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to have used any of the demosaicing techniques disclosed by Rashkovskiy in order to generate all of the color signals for each pixel location for complete color reproduction and for generating an aesthetically pleasing display of the current scene.

Examiner notes that the above described process of demosaicing is a form of color correction, however, Rashkovskiy also discloses performing a luminance correction for the interpolation of the red and blue colors so as to increase image sharpness and reduce aliasing artifacts (column 4, line 12 – column 5, line 16; column 6, lines 47-65). Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to have preformed the color correction disclosed by Rashkovskiy in order to increase image sharpness and reduce aliasing artifacts.

In regards to claim 3 Examiner notes that one of ordinary skill in the art would readily recognize to perform the processing functions discussed above on both video frames and still images.

In regards to claim 15 see Examiners notes on the rejection of claims 2 and 3.

In regards to claim 16 see Examiners notes on the rejection of claim 3.

Claims 18, 22, and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over (USPN 2002/0024602 to Juen) in view of (USPN 5,712,681 to Suh) in further view of (US PG-PUB 2003/0112348 A1 to Okuley).

In regards to claim 18 Neither Juen nor Suh disclose nor preclude that the video pipeline and the still image pipeline use separate image sensors. Okuley discloses an embodiment depicted in Fig. 9 similar to Juen wherein a single image sensor provides means for recording both still and motion images. Okuley further discloses in Fig. 8 an embodiment wherein the still image recording and motion image recording pipelines have separate image sensors (paragraphs 0020-0023). Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to have used two separate image sensors for the separate pipelines as implicitly suggested by Okuley.

Examiner notes that one of ordinary skill in the art at the time of the invention would clearly recognize that having separate image sensors for the separate pipelines is advantageous in that it is not necessary to have complex read-out of the image sensor in the case where both still image and moving images are recorded simultaneously as is done in the Juen reference. Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to have used two separate image sensors for the separate pipelines so as to not need complex read-out of the image sensor in the case where both still image and moving images are recorded simultaneously.

In regards to claims 22 and 23 see Examiners notes on the rejection of claim 18. Note that Okuley discloses the image sensors have different resolutions in paragraph 0020.

Claims 1, 4-14, 17, 19-21, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over (USPN 2002/0024602 to Juen) in view of (USPN 4,763,146 to Niikura).

In regards to claim 1 Juen discloses a method for concurrently acquiring, processing, and transmitting digital video and still images, comprising:

acquiring video frames from one or more image sensors (e.g., element 1);

processing the video frames using a video pipeline, wherein the video pipeline includes one or more processors (e.g., video pipeline includes elements 7, 3, and R of Fig. 5, wherein elements 4 and 7 are inherently processors for performing the labeled process, e.g., compressing);

processing the high resolution still images using a still image pipeline wherein the still image pipeline runs concurrently with the video pipeline (e.g., still video pipeline includes elements 5, 7, 4, and R, wherein the two pipelines operate concurrently, e.g., while one pipeline is recording the other pipeline is buffering).

Juen does not explicitly disclose nor preclude temporarily storing the video frames in a frame buffer when one or more high resolution still images are acquired during the video frame acquisition.

Niikura discloses a composite camera that can record moving image data via an image sensor or still image data via film (e.g., Figs. 1 and 2; column 6, lines 16-47). Examiner notes that Niikura's camera discloses that during still image recording the moving image recording is interrupted wherein in order to overcome this interruption the moving image data is buffered in a frame buffer so as to enable the recording of the still image data without losing any moving image data. Therefore it would have been obvious to one of ordinary skill in the art to have

buffered the moving image data as taught by Niikura so as to avoid interrupting the moving image.

In regards to claim and 4 Juen discloses downsampling the video frames as disclosed by element 8 of Fig. 5 and paragraphs 47 and 49. Note further element 7 of Fig. 5.

In regards to claim 5 Examiner notes that it is extremely well known in the art to provide communications channels in a digital camera in order to provide data transportability. Official notice is taken. Therefore it would have been obvious to one skilled in the art at the time of the invention to have added communication channels in order to provide data transportability.

In regards to claim 6 see element R.

In regards to claim 7 see Examiners notes on the rejection of claim 1. Note that since the buffer is storing the video images it would need to be emptied by recording the buffered video image so as to enable the recording of still images during movie image recording without interrupting the moving image.

In regards to claim 8 note that in Fig. 5 both pipelines use the compression processor in the image compression means element 7 and the same imaging means 1.

In regards to claim 9 see Fig. 5 and Examiners notes on the rejection of claim 1.

In regards to claim 10 see Examiners notes on the rejection of claim 1.

In regards to claim 11 see Examiners notes on the rejection of claim 6.

In regards to claim 12 see Examiners notes on the rejection of claim 5.

In regards to claim 13 see Examiners notes on the rejection of claim 7.

In regards to claim 14 see Fig. 7 wherein Juen discloses a microprocessor element 18, and a DSP element 15 Note paragraph 0079.

In regards to claim 17 see Examiners notes on the rejection of claim 8.

In regards to claim 19 see Fig. 2.

In regards to claim 20 see Examiners notes on the rejection of claim 1.

In regards to claims 21 and 24 see Examiners notes on the rejections above.

Claims 2, 3, 15, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over (USPN 2002/0024602 to Juen) in view of (USPN 4,763,146 to Niikura) in further view of (USPN 6,181,476 to Rashkovskiy et al.).

In regards to claim 2 Juen discloses downsampling the video frames as disclosed by element 8 of Fig. 5 and paragraphs 47 and 49. Examiner notes that Juen does not explicitly disclose nor preclude that the imaging means be a color imaging means. Examiner notes that it is extremely well known in the art to use color filters so as to provide a color image rendition of a taken image. Juen does not disclose nor preclude performing demosaicing of the video or still images. Examiner notes that it is extremely well known to provide demosaicing for color filters in order to generate all of the color signals for each pixel location for complete color reproduction (column 1, line 35 – column 2, line 19; column 3, lines 33-39; Rashkovskiy). Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to have used any of the demosaicing techniques disclosed by Rashkovskiy in order to generate all of the color signals for each pixel location for complete color reproduction and for generating an aesthetically pleasing display of the current scene.

Examiner notes that the above described process of demosaicing is a form of color correction, however, Rashkovskiy also discloses performing a luminance correction for the

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interpolation of the red and blue colors so as to increase image sharpness and reduce aliasing artifacts (column 4, line 12 – column 5, line 16; column 6, lines 47-65). Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to have preformed the color correction disclosed by Rashkovskiy in order to increase image sharpness and reduce aliasing artifacts.

In regards to claim 3 Examiner notes that one of ordinary skill in the art would readily recognize to perform the processing functions discussed above on both video frames and still images.

In regards to claim 15 see Examiners notes on the rejection of claims 2 and 3.

In regards to claim 16 see Examiners notes on the rejection of claim 3.

Claims 18, 22, and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over (USPN 2002/0024602 to Juen) in view of (USPN 4,763,146 to Niikura) in further view of (US PG-PUB 2003/0112348 A1 to Okuley).

In regards to claim 18 Neither Juen nor Niikura disclose nor preclude that the video pipeline and the still image pipeline use separate image sensors. Okuley discloses an embodiment depicted in Fig. 9 similar to Juen wherein a single image sensor provides means for recording both still and motion images. Okuley further discloses in Fig. 8 an embodiment wherein the still image recording and motion image recording pipelines have separate image sensors (paragraphs 0020-0023). Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to have used two separate image sensors for the separate pipelines as implicitly suggested by Okuley.

Examiner notes that one of ordinary skill in the art at the time of the invention would clearly recognize that having separate image sensors for the separate pipelines is advantageous in that it is not necessary to have complex read-out of the image sensor in the case where both still image and moving images are recorded simultaneously as is done in the Juen reference. Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to have used two separate image sensors for the separate pipelines so as to not need complex read-out of the image sensor in the case where both still image and moving images are recorded simultaneously.

In regards to claims 22 and 23 see Examiners notes on the rejection of claim 18. Note that Okuley discloses the image sensors have different resolutions in paragraph 0020.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian C. Genco who can be reached by phone at 703-305-7881 or by fax at 703-746-8325. The examiner can normally be reached on Monday thru Friday 8:30am to 4:30 pm.

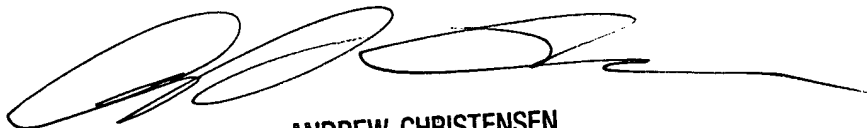
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Christensen can be reached on 703-308-9644. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the customer service office whose telephone number is 703-308-4357.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Brian C Genco
Examiner
Art Unit 2615

March 22, 2004



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